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MP183

‘Post Commissioning Obligations Reporting’

Modification Report

Version 1.0

20 December 2022

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About this document

This document is a Modification Report. It sets out the background, issue, and progression timetable for this modification, along with any relevant discussions, views and conclusions.

Contents

This document also has two annexes:

- **Annex A** contains the redlined changes to the Smart Energy Code (SEC) required to deliver the Proposed Solution.
- **Annex B** contains the business requirements for the solution.

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1. Summary

This proposal has been raised by Tim Dunning from the Data Communications Company (DCC).

The DCC is required to provide several reports on failures in the Smart Metering Equipment Technical Specifications (SMETS) 2+ Post Commissioning process to DCC Users, the SEC Panel, each Communication Service Provider (CSP), and other Industry Parties. However, some scenarios whereby a Device may be successfully Commissioned could be defined as having failed under the current criteria set out in the SEC.

Failures in the Post Commissioning process are therefore being over-reported to a significant degree, resulting in time and resources being wasted on 'false positive' cases and diverting focus from genuine issues.

This modification seeks to amend the reporting criteria to give a more accurate view of the volumes of securely Commissioned Devices, and to ensure the reports provided are of material benefit to the Parties. The Proposed Solution will be to remove successful execution of Certificate-related Commands as a criterion for pass/fail of Post Commissioning and improve the DCC's reporting on the overall Certificate health of Commissioned Devices.

This modification will impact Suppliers and the DCC. There are no DCC costs to implement this change. This modification is targeted for implementation in the February 2023 SEC Release and will be progressed as a Self-Governance Modification.

2. Issue

What are the current arrangements?

As part of its obligations under SEC Appendix AC 'Inventory, Enrolment and Withdrawal Procedures', the DCC is required to report on failures in the Post Commissioning process for SMETS2+ Devices following their installation. The reporting is partly based on the sending of Service Reference Variants (SRVs) to update Device Security Credentials and the subsequent Responses indicating Commands have been Successfully Executed.

The DCC reporting criteria for Post Commissioning Obligations are mandated in SEC Appendix AC section 5. A summary of the current requirements, and therefore the reporting criteria, are as follows:

- DCC User sending 2x SRV 6.17 'Issue Security Credentials' successfully;
- DCC User sending 2x SRV 6.15.2 'Update Security Credentials (Device)' successfully;
- DCC User sending SRV 6.15.1 'Update Security Credentials (Known Remote Party (KRP))' successfully;
- Data Service Provider (DSP) checking that Device is communicating correctly; and
- DSP checking that Recovery Trust Anchor Cell is populated correctly.

As the DCC reporting criteria was created before the DCC Systems had been built, there is currently no provision for reporting Commissioning as Successful when the process deviates from the defined pathway.

What is the issue?

Using the above criteria, the DCC Post Commissioning reports record failures in the process, even though Devices may be communicating correctly and have the correct Security Certificates. This can happen for several reasons, including Responses to SRVs timing out and Devices returning an 'empty' Execution Status, which counts as a failure under the current criteria. Also, if there is a Change of Supplier (CoS) prior to completion of Post Commissioning Obligations, the Device will continue to be reported as having failed Post Commissioning under the current criteria, despite correct Supplier Certificates being present.

This reporting criteria also fails to reflect design changes which have occurred over the past four years. For example, DCC Users can choose to send an SRV 6.21 'Request Handover of DCC Controlled Device' instead of SRV 6.15.1 if the Network Operator Trust Anchor Cells are populated with DCC credentials instead of Supplier Certificates.

Anomalous behaviour of the DCC User generated commands typically identify a failure rate of around 7%. Checks by the DCC on the actual Certificates populated on Devices revealed that the overall failure rate is around 1%. This reporting is therefore presenting a significantly worse view of the status of Devices Post Commissioning. When this analysis was presented to the Security Sub-Committee (SSC), it advised that the DCC should raise recommendations to improve the reporting and affect this via a SEC modification.

What is the impact this is having?

Due to over-reporting of Post Commissioning failures, DCC Users waste resources investigating Devices which have actually been Commissioned successfully. The CSPs also waste resources investigating and resolving Incidents for Communications Hub Functions (CHFs) which are incorrectly seen to have failed Post Commissioning, as SEC Appendix AC section 5.13 mandates that the DCC is required to raise an Incident for every 'failing' CHF.

The inaccuracy of published reporting to SEC Parties, and of SEC Party performance reporting to the SSC, can have a reputational impact on individual Parties and across the Industry. Currently, reported volumes of Devices which fail Post Commissioning breach the Critical National Infrastructure levels for risk to the network. However, the actual number of Devices that are not securely Commissioned falls within tolerance levels.

Impact on consumers

This issue can result in consumers' time being wasted through unnecessary site visits to resolve non-existent faults.

3. Solution

Proposed Solution

The solution will be to remove the number of successfully executed SRVs as a criterion for pass/fail of Post Commissioning Obligations. The DCC will instead look at the end result (are the Certificates correct) and whether they were updated within the seven-day Post Commissioning window, with data on the count of SRVs helping to show the reasons for failures.

As part of the solution, the DCC will update its current reporting suite to show the 'in-life' Certificate health of all Commissioned Devices.

The reporting logic that will be added is a three-step check:

- Do the Party details held within the Certificate match the expected Party for the Device?
- Is this Party a known DCC User?
- Have the Certificates been cycled Post Commissioning?

These checks will be carried out on Certificates in KRP and Device Certificate slots and will be combined with existing reporting logic on the number of relevant SRVs sent and the presence of correct Certificates in the remaining slots.

If Certificates are not correct and the requisite SRVs haven't been sent within seven days, the Party will be reported to have failed its Post Commissioning Obligations.

4. Impacts

This section summarises the anticipated impacts that would arise from the implementation of this modification. This will be refined as the solution is developed.

SEC Parties

SEC Party Categories impacted			
✓	Large Suppliers	✓	Small Suppliers
	Electricity Network Operators		Gas Network Operators
	Other SEC Parties	✓	DCC

Supplier Impact

There will not be any direct impact on Large and Small Suppliers as a result of this modification. However, the Post Commissioning reporting they receive from the DCC will provide greater insight into root causes of process failures, and they may wish to update their internal processes accordingly.

DCC Impact

The DCC will be required to update its Post Commissioning reporting process to ensure its Users are receiving the correct information.

DCC System

This modification will not impact the DCC System.

SEC and subsidiary documents

The following parts of the SEC will be impacted:

- Appendix AC 'Inventory Enrolment and Decommissioning Procedures'

Full details of the changes required to the SEC documentation are available in Annex A.

Consumers

There is not expected to be any direct impact on Consumers as a result of this modification. However, improved reporting on Post Commissioning issues should lead to a reduction in unnecessary engineer site visits.

Other industry Codes

This modification has no impact on other industry Codes.

Greenhouse gas emissions

This modification has no impact on greenhouse gas emissions.

5. Costs

DCC costs

There are no DCC costs to implement this modification.

SECAS costs

The estimated SECAS implementation cost to implement this as a stand-alone modification is one day of effort, amounting to approximately £600. This cost will be reassessed when combining this modification in a scheduled SEC Release. The activities needed to be undertaken for this are:

- Updating the SEC and releasing the new version to the industry.

SEC Party costs

There will be no SEC Party costs to implement this modification.

6. Implementation approach

Recommended implementation approach

The Change Sub-Committee (CSC) has agreed an implementation date of:

- **23 February 2023** (February 2023 SEC Release) if a decision to approve is received on or before 23 January 2023; or
- **29 June 2023** (June 2023 SEC Release) if a decision to approve is received after 23 January 2023 but on or before 29 May 2023.

There are no DCC System changes required to implement this modification. A one-month lead time is given to allow the DCC time to embed the new reporting.

7. Assessment of the proposal

Observations on the issue

Prior to raising this modification, the DCC presented its analysis to the SSC. The SSC advised that the DCC should raise recommendations to improve the reporting and affect this via a SEC modification.

SECAS presented a summary of this modification to the Operations Group (OPSG) on 7 December 2021 for comment and to identify any operational concerns arising from amendments to the Post Commissioning reporting. The OPSG noted no concerns and advised it is supportive of the proposed changes.

Solution development

Following development of the Proposed Solution, the SSC felt that it better reflected the initial intentions of the Post Commissioning Obligations and improved the level of information available to DCC Users for resolving issues in Certificate-related processes.

The Working Group queried how the DCC would know if Device-specific Certificates were correct as the current reporting doesn't distinguish between SRV 6.15.2 'Update Security Credentials (Device)' messages for 'keyAgreement' and 'digitalSignature'. The DCC investigated the inclusion of this detail in the new reporting criteria and concluded that as this level of data is not available to the DCC without extensive system changes it should not be included within the scope of this modification. SECAS suggested to the Working Group that if there is a business case for allowing the DCC to have this functionality, then it should be raised as a separate modification.

The Working Group agreed that the Proposed Solution doesn't undermine the Post Commissioning Obligations, and that the Proposed Solution met the business requirements.

8. Case for change

Business case

The DCC has demonstrated that the existing reporting on Post Commissioning Obligations results in failures being recorded against Devices which have successfully completed Post Commissioning. Implementing the reporting changes in this modification will deliver greater accuracy in the reporting on SEC Party obligations and provide DCC Users with more information on the in-life Certificate health of their Devices. The modification will not require DCC System changes and therefore the costs are limited to SECAS time and effort to implement the changes to the SEC.

Views against the General SEC Objectives

Proposer's views

The Proposer believes that this modification will better facilitate SEC objectives (a)[1] and (b)[2].

SEC Objective (a)

The modification will better facilitate SEC objective (a) by providing greater and more accurate detail to DCC Users of Devices which have failed Post Commissioning and the reasons for failure. This will facilitate resolution of incidents and reduce the time and resource spent investigating incidents which are currently falsely reported as failures.

SEC Objective (b)

The modification will better facilitate SEC objective (b) by improving the accuracy of the DCC's Post Commissioning Obligations reporting to its Users and industry.

Industry views

The Refinement Consultation received two responses, both of which felt that the modification better facilitated SEC Objectives (a) and (b) for the reasons given above. Additionally, one respondent noted the reduced risk of Devices being replaced as better facilitating SEC Objective (b).

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[1] Facilitate the efficient provision, installation, and operation, as well as interoperability, of Smart Metering Systems at Energy Consumers' premises within Great Britain.
[2] Enable the DCC to comply at all times with the General Objectives of the DCC (as defined in the DCC Licence), and to efficiently discharge the other obligations imposed upon it by the DCC Licence.

Views against the consumer areas

Improved safety and reliability

This modification would have a neutral impact against this consumer area.

Lower bills than would otherwise be the case

This modification would have a neutral impact against this consumer area.

Reduced environmental damage

This modification would have a neutral impact against this consumer area.

Improved quality of service

This modification would have a positive impact against this consumer area, as it will help to ensure that Suppliers can communicate effectively with their Devices and reduce the number of unnecessary site visits.

Benefits for society as a whole

This modification would have a neutral impact against this consumer area.

Appendix 1: Progression timetable

On 20 December 2022 the CSC approved the full Modification Report and agreed that this should proceed to the Report Phase as a Self-Governance Modification. The modification will be presented to the Change Board on 25 January 2023 for the final vote.

Timetable	
Event/Action	**Date**
Draft Proposal raised	17 Sep 2021
Presented to CSC for initial comment	28 Sep 2021
Modification discussed with Operations Group	7 Dec 2021
CSC converts Draft Proposal to Modification Proposal	21 Dec 2021
Modification discussed with SSC	23 Feb 2022
Modification discussed with Working Group	2 Mar 2022
DCC develops the technical solution	Apr 2022 – Sep 2022
Modification discussed with Working Group	2 Nov 2022
Refinement Consultation	7 Nov 2022 – 25 Nov 2022
Modification Report approved by CSC	20 Dec 2022
Modification Report Consultation	*20 Dec 2022 – 13 Jan 2023*

Timetable	
Event/Action	**Date**
Change Board Vote	*18 Jan 2023*

Italics denote planned events that could be subject to change

Appendix 2: Glossary

This table lists all the acronyms used in this document and the full term they are an abbreviation for.

Glossary	
Acronym	**Full term**
CHF	Communications Hub Function
CoS	Change of Supplier
CSC	Change Sub-Committee
CSP	Communication Service Provider
DCC	Data Communications Company
DSP	Data Service Provider
KRP	Known Remote Party
OPSG	Operations Group
SEC	Smart Energy Code
SECAS	Smart Energy Code Administrator and Secretariat
SMETS	Smart Metering Equipment Technical Specifications
SMKI PMA	Smart Metering Key Infrastructure Policy Management Authority
SRV	Service Request Variant
SSC	Security Sub-Committee
TABASC	Technical Architecture and Business Architecture Sub-Committee